

09-30-'05 11:40 FROM-Lerner & Greenberg

+9549251101

T-235 P09/16 U-848

Appl. No.: 10/617,640

Amdt. Dated September 30, 2005

Reply to Office action of August 24, 2005

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-7 and 9-24 remain in the application. Claims 1-4, 6, 9-10 have been amended. Claim 8 has been previously withdrawn. Claims 14-24 have been previously withdrawn and rejoinder of claims 14-24 is requested.

In item 2 on page 2 of the above-identified Office action, claims 1-7 and 9-13 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

More specifically, the Examiner has stated that the limitation of the ceramic composite being a single one-piece body and having no fibers cannot be found in original disclosure.

Besides those passages already mentioned in the response to the previous Office action, further evidence for the limitation that the ceramic body of the invention of the instant application is a single one-piece body can be found on page 15, lines 9-13 of the specification, which read

*The resulting body, the green body, now consists of the added solids, particularly the ceramic particles, which are held together by a binding*

Applic. No.: 10/617,640

Amdt. Dated September 30, 2005

Reply to Office action of August 24, 2005

phase consisting of pyrolytically generated carbon.

The words stating that the particles in the green body are held together by the binding phase have the meaning that it is an integral one-piece body. This green body is the result of step a) according to the process outlined on page 14 of the specification. Upon further processing according to steps b) and c) (see page 14, lines 13-17 of the specification), the body is infiltrated with a carbide-forming metal from at least one of its exterior surfaces, resulting in the formation of the different layers A and B. Thus, the body was one-piece after step a), and the further processing consists only of the steps of adding the molten carbide-forming metal and infiltrating the body. It is not reasonable to assume that the body becomes disintegrated within the further process. Contrarily, if it was a one-piece body before infiltration, it will remain so after infiltration.

It is noted that the Examiner did not give reasons why Applicant's arguments that the ceramic body of the invention of the instant application is a one-piece ceramic body were not persuasive.

Regarding the limitation that the body does not contain fibers, the composition of the body is described on page 6,

Applic. No.: 10/617,640  
Amdt. Dated September 30, 2005  
Reply to Office action of August 24, 2005

lines 5-11; page 7, lines 10-1; page 8, lines 15-20 (layer B); page 8, line 21 to page 9, line 15 (layer A); page 10, lines 3-15; page 11, lines 12-18; page 13, lines 15-23 (description of the figure); and page 15, lines 14-22. Within all these paragraphs, fibers are not mentioned at all. Therefore, it is reasonable to conclude that the claimed ceramic bodies in general do not contain any fibers.

Fibers are mentioned in the description of the invention only on page 7, line 17; page 12, line 6; page 19, line 15 and page 20, line 1, but always in the context of a fiber backing, which is not a part of the ceramic body according to claim 1 of the instant application. Thus, the mention of fibers cannot be interpreted as the fibers being a component of the claimed ceramic body.

Furthermore, carbon fibers (and no other kinds of fibers) are mentioned on page 16, line 1 of the specification as one kind of carbon material beside coal, coke, natural and technical graphite, carbonized organic material, glass carbon and carbonization products. Since the carbon fibers are mentioned only as one possible alternative among several other materials, it is clear that they are not an important component of the inventive ceramic body of the invention of the instant application. This is even further clarified by

Applic. No.: 10/617,640  
Amdt. Dated September 30, 2005  
Reply to Office action of August 24, 2005

the following passage on page 16, lines 4-5 that the use of carbon fibers can be omitted. Since other fibers were never mentioned as constituents of the ceramic body, it was logical to make a statement in the description that all other kinds of fibers can be omitted, too.

In general, when drafting a patent application usually positive wording is used, i.e. usually the components, which are contained in the inventive ceramic body, are named, but not all and any kind of material, which is not contained therein, is named.

Therefore, it seems justified to conclude from the description that the body does not contain fibers, and it seems also justified to claim a ceramic body which does not contain any fibers on the basis of the description.

In item 4 on page 2 of the above-identified Office action, claims 1, 4-7, and 9-13 have been rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

More specifically, the Examiner has stated that the phrase "body having pores in a portion of" in claim 1 still does not make the limitation clear as to where this porosity is within the body.

09-30-'05 11:40 FROM-Lerner & Greenberg

+9549251101

T-235 P13/16 U-848

Appl. No.: 10/617,640

Amdt. Dated September 30, 2005

Reply to Office action of August 24, 2005

First, it is noted that claim 1 does not recite "body having pores in a portion of," but rather "body having pores in a proportion of."

Second, it is clear from the description on page 8, lines 15-20, page 10, lines 18-20, and page 13, lines 20-21 that the 10-35 % pore fraction is situated in the layer B. Furthermore, page 11, lines 1-2 defines the difference between the porosity of the layer A and the layer B. The language of claim 1 has been modified correspondingly.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic and/or clarificatory reasons. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claims for any reason related to the statutory requirements for a patent.

In item 6 on page 3 of the above-mentioned Office action, claims 1-7 and 9-13 have been rejected as being anticipated by Krenkel et al. (US 6,358,565) under 35 U.S.C. § 102(e).

09-30-'05 11:40 FROM-Lerner & Greenberg

+9549251101

T-235 P14/16 U-848

Applic. No.: 10/617,640

Amdt. Dated September 30, 2005

Reply to Office action of August 24, 2005

In 7 on page 3 of the above-mentioned Office action, claims 1-3, 5-10, and 12 have been rejected as being anticipated by Hanzawa et al. (US 6,472,058) under 35 U.S.C. § 102(e).

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references. However, the language of claim 1 has been modified in an effort to even more clearly define the invention of the instant application as discussed above.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

a second layer B containing particles of silicon carbide bound in part by carbon binding phases and in part directly by sintered bridges, said second layer B containing nitrides of at least one element selected from the group consisting of silicon, titanium, zirconium, boron, and aluminum, said second layer B having a porosity of 5 to 35% by volume;  
the ceramic composite body being a single one-piece body, the ceramic composite body containing no fibers.

According to claim 1 of the instant application, the layer B contains nitrides. It is noted that the Examiner has not at all considered this limitation in the final Office action.

Applc. No.: 10/617,640

Amdt. Dated September 30, 2005

Reply to Office action of August 24, 2005

Nitrides are not contained in the material of Krenkel et al. In contrast to the invention of the instant application, the material of Hanzawa et al., which optionally contains s nitrides, is a fiber-reinforced material.

Clearly, neither Krenkel et al. nor Hanzawa et al. show "a second layer B containing particles of silicon carbide bound in part by carbon binding phases and in part directly by sintered bridges, said second layer B containing nitrides of at least one element selected from the group consisting of silicon, titanium, zirconium, boron, and aluminum, said second layer B having a porosity of 5 to 35% by volume," as recited in claim 1 of the instant application.

Claim 1 is, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-7 and 9-13 are solicited. Rejoinder of method claims 14-18 is requested upon allowance of product claims under MPEP 821.04 ("if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the

09-30-'05 11:41 FROM-Lerner & Greenberg

+9549251101

T-235 P16/16 U-848

Applic. No.: 10/617,640

Amdt. Dated September 30, 2005

Reply to Office action of August 24, 2005

limitations of the allowable product claim will be rejoined").

Consideration of claims 19-24 is also requested because they are ultimately dependent on claim 1.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

In the alternative, the entry of the amendment is requested as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

Yonghong Chen  
Reg. No. 56,150

Yonghong Chen  
For Applicant

YC

September 30, 2005

Lerner and Greenberg, P.A.  
Post Office Box 2480  
Hollywood, FL 33022-2480  
Tel: (954) 925-1100  
Fax: (954) 925-1101